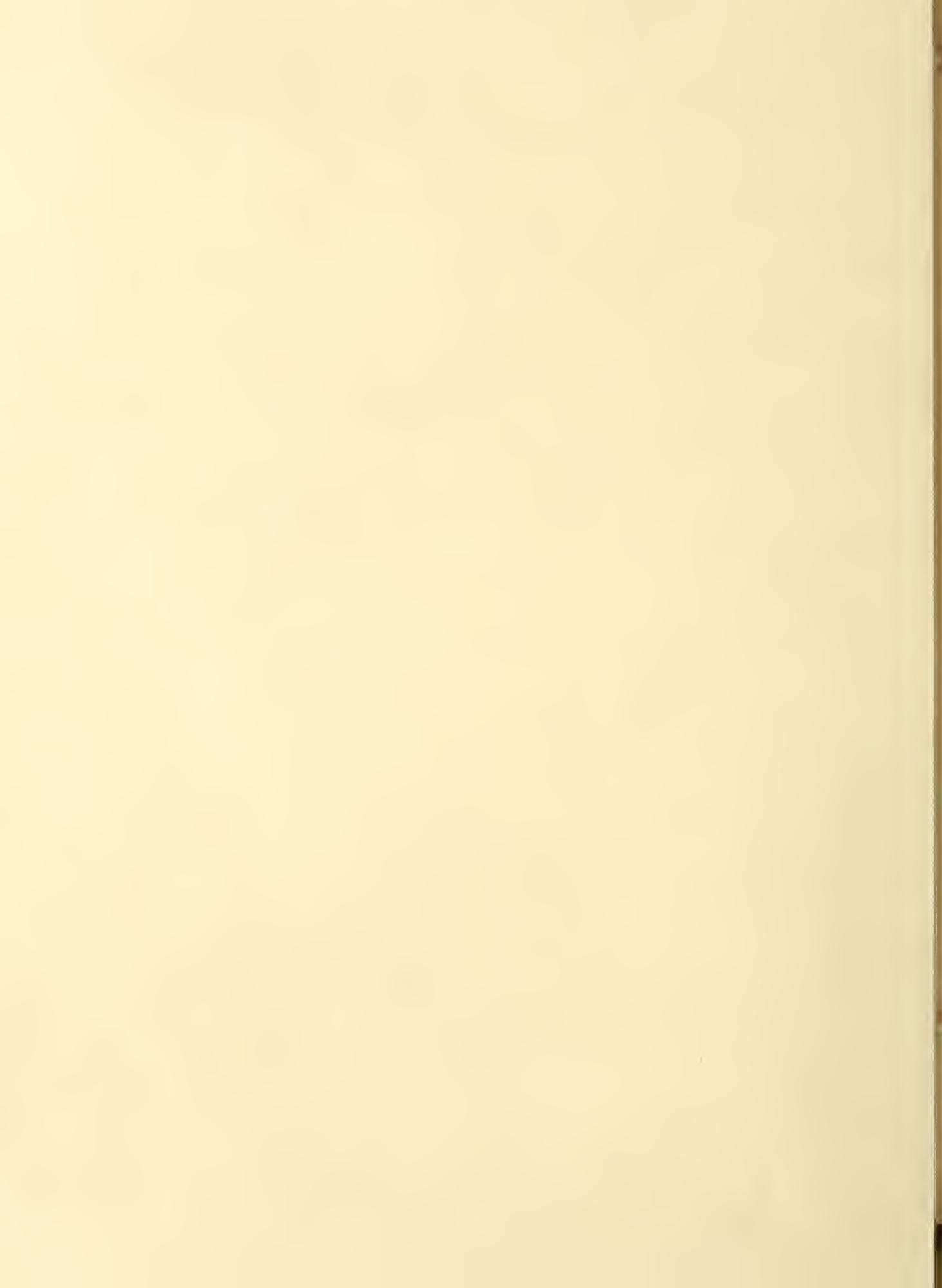
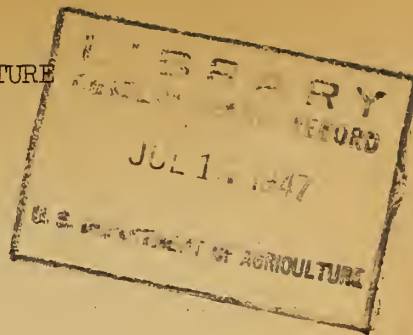


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HORSES OF FAMOUS LINE BRED AT  
U. S. D. A. MORGAN HORSE FARM

The U. S. Department of Agriculture continues its active participation in the Nation's program to perpetuate and improve the Morgan horse, one of the few breeds of horses developed in the United States. It began this participation in 1906, in cooperation with the Vermont State Experiment Station, at the station's farm near Burlington, with a project designed to preserve and expand the fine qualities of the Morgan horse - beauty, easy keeping, soundness, endurance, and spirit coupled with gentleness. A year later the project was moved to a 400-acre farm near Middlebury, donated for the purpose by Col. Joseph Battell. Today the U. S. Morgan Horse Farm covers about 1,000 acres in the rolling, wooded country 2 miles north of Middlebury.

The original breeding stock consisted of a small band of mares and a stallion, carefully selected for their outstanding characteristics. The first stallion - General Gates 666 - was a lineal descendant of Justin Morgan 1, who was foaled in 1793 and died in 1821. Justin Morgan 1 was a small, active animal of great power and endurance, with the reputation of being able to outwalk, outrun, and outpull any other horse in Vermont and the neighboring States. He had the power to transmit these qualities through his three sons - Sherman Morgan 5, Woodbury Morgan 7, and Bulrush Morgan 6 - and their descendants, including General Gates 666, on down through ten generations to Mentor 8627, who now heads the Middlebury stud. The farm's 32 brood mares produced 23 foals in 1946.

With the increase in automobiles through the last 30 years, the Morgan horse breeders have given more and more attention to the development of traits desirable in riding horses. Usually about 45 young horses are under test on the Morgan farm. The breeding program calls for the measurement of each youngster at one year of age, at two years, and at three years. All are trained under saddle and in harness and are put through controlled performance and endurance trials when about three years old. The data thus obtained form the permanent records of the individuals. They are used also in studies of sire and dam inheritance and as criteria for formulating the station's breeding program.

For the tests of three-year olds the Department's horse specialists have devised specific trials to measure the walking and trotting gaits and the horses' endurance in harness and under the saddle. Speed and length of stride are recorded over a measured mile when the horse, hitched to a two-wheel training cart, pulls 60 percent of its body weight, and again when, under the saddle, it carries 20 percent of its body weight. Endurance is measured by trotting the horse, hitched to a two-wheel training cart, over a 5-mile course, and, again, by riding it over an  $11\frac{1}{2}$ -mile course in which the animal covers marked distances at three different gaits, adding up to 4.7 miles at a walk, 5.7 miles at a trot, and 1.1 miles at a canter. For the 5-mile test respiration and heart beats are taken and recorded before the horse leaves its stall, when it finishes the test, and at intervals of 5, 10, and 15 minutes after the trial. At the end of this endurance test the horse is scored for signs of fatigue, for ease of gait as judged by the rider, and for other factors.

These tests, the Department hopes, will reveal some correlation between equine characteristics, such as temperament and conformation, on the one hand, and speed, endurance, and other performance qualities, on the other. Such correlations would become a valuable aid in producing horses of any breed to meet certain specifications.